"If war were declared to-morrow, what would we do for aircraft?"

AVIATION

MARCH 19, 1923

Issued Weekly

PRICE 10 CENTS



VOLUME XIV

SPECIAL FEATURES

Number 12

ADMIRAL MOFFETT ON AIR POWER BRISTOL ENGINE FOR SMALL AIRCRAFT CONTEST FOR AIR POWER IN THE PACIFIC NON-DIMENSIONAL COEFFICIENTS FOR AIRSHIPS

THE GARDNER, MOFFAT CO., INC.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK

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SURJECUT AURONALITICAL CORPORATION





AVIATION MARCH 10 1023

CONTENES Editorals a control of commission 202 Bristol "Chemb" Engose for Smell Amends 222. referedas 316 Board the Weld by Air carry contraction 223 Scoret Activities of A S S , M 1 7 222 Fine Affilds Fight 29 Away and Novy Ale News 204

THE GARDNER, MOFFAT COMPANY, Inc., Publishers MICHEAND N Y 225 DOUBTH ANDRUG NEW YORK

Suburaphon priori Four dellars per year. Single copies. Issued every Henday, Forms closs ten days previously ten cents. Complet, Sen dellars. Founge, res dellars. Institut as accordables matter for. 35, 2505, at the year. Opposite 1505, by the Greinlern Might for.—Full Office at Mighland, N. T., waiter and ref. Morth.

VOL. XIV. NO. 12

THOMAS, MODSE A IDCDAFT CODDODATION

CONTRACTORS TO U. S. GOVERNMENT







DEPENDABILITY

During fourteen years of Recently when the Navy continuous airolane manufacturing, the Glenn L. Martin Company has established a reputation for leadership in the industry.

Among the new types brought out each year. the model "TT" in 1913 was one of the first training planes adopted by the U.S. World War, the same organization was depended upon to design and produce the first all-American bombing plane - the famous Mar-

tin Bomber

wanted a new, all-metal observation type plane again it was the Martin organization who was called on to produce it. The result is that for the

first time in American agronautice a metal airplane has been built which exceeds in every particular the required specifications - it is under weight and over all fac-

tors of safety. The reputation of the Glenn L. Martin Company for dependability is no less than its reputa-

tion for quality in its product.

THE GLENN L. MARTIN COMPANY

Builders of Quality Aircraft since 1908

L. D. Gorresa Vel XIV

AVIATION

Leonar s'Osco

Recent H. Lincon

that these therein had been left for laked France on the

The Garreine Air Forces THAT Present Masselm should down it measures at this time to once Bigh a recentle are force in significant. It industry that Knowen states are prospering the greening

His connects to the accountryl whiston in Europe are of considerable account. He said smoon others "After wakers on accorde examination of the synt pra control of educacio and possends to counder in detail this

program of the Bellin Aeronatical Assessment and of "French Army Aviation consists of feartoes required: with a total of 154 spradgess, with 1349 armed machines of the first line and 2000 machines held in reserve. In addition

Continues by stated that "the effects being made by the

the sawation of our seconds of once. The connectical con- American air strength has been should allowing into the street ag industry must be constant and put on a first background over many the deschillration. In the recognition footing at the same date !

At the end of the ner, he said. Tritis had \$300 servers British had STI first line places and France 1.556. Last vang 200 semi-mulitary machines were bush in Great Bration, as summer 1,300 as France Wade two hinds of the Bullet machines were oversoon.

over £5,000,000, Ser Samuel and, and as eventual memory. x year net. The estimates for 1923-1924 are (15.665.000 ment. His extracts of \$65,000,000 a year for new component The servicement and disturbane thing about the served arm in Trotaley, the Bosons war communer, made a correct estimate scandows, he sad: "In the or all start albo." In the matter Since, printed in this issue, in disminsting in this respect. obsolutence of sweet). This renders simple moless the "At the present time the littless Army Air Service has MIF building up of large reserve stocks, radios a ration magaziness efford cursos, 350 efford explain, forder uniter in powerful agricum which is using then up fast enough to felds excepted and sistent being completed. All this me- have the powers material constantly sequent, as in the case terrid to to be roof. My program mile for 729 new machines. of Process. Therefore a strong standard six force, release on methods evaluate which, with the 70,000,000 Line still returned the provincents of Europe in submitting still an

Seasof Stone, British Secretary of State for Air, when, in- but be proportional with our subpos, for we are recoming trefering his extender in the Mouse of Common, he mated - stationary. Will Congress see the writing on the wall?

By P. Juray Enganorina Stell, Zapodia Airako Construence Co-

When describing applies, they characteristics are usually especial is ferm of the skry's our and organ power, and of hated on shaderd strombers condition, they still do not prevale a ready mean for direct comparison of different true and makes, so they are not related to common baris.

of a gram size sea he drawn to the torospower mutabal

Propeller Chemat in Lett. P -- 25 ---

N the total horsepower gradeble at the crackshaft, some qualifies may be obtained. The conditions for the As the forms P and F used he as emphasize, we may de-

As the propelling force is constructed award by the emissions of the leak and its assessment. The speed of which we sample COMPARISON OF THE WORLD'S AIRSHIPS County Do- Levely Ro-(meters) (meters) (kalon) (kalon) New-Basis and Best-Book America America Percy Shires. 3000* Germany 1997 13300

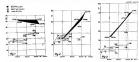
Note The standard condition the above values of disposable fift are referred to are—specific grants of the gra — 0.1; burnanders armore -- 700 cm measure, temperature -- FC merge present or you are meeting, temperature of P.C.

The above data per greatly average values calculated from those patiented, the briest leaving from naturally predented. "If you was declared to marrow, what would not do for a recent?"

19500

It was be used to digricule for comparative degree of effic-

- 75 N materials has been developed in different types and anders et which represents the proposition efficiency. This shows the appropriate. When comparing on this basis confirm of differ-



preparement from the accompanies most of view for all The disposable lift, that is, the proportion of the total lift available for that sed at builded, stone, over and user load. Lf it is the total Bift of the sandop for some specified set of simerobaric confidence, G the total fixed world and G the

The effectives of absorband design may be expressed as the

Fig. 1 Prophing Efference

Discussion by R. H. Upson

of new figurement characteristics. There is no agreement 16 ft makes as difference in six rates what senters of mean ther the condition is put fulfilled in the appended toker, where

other condition. Speeds may be recovered or estimated in different uses that ever their so common basis of common total discharged volume. The configuration of "Efficients" is not trady non-di-

modation of the pay load depends very much upon the kind sixtlips, upon the degree of resolver provided for.

By a sunwaket satisfacily chosen conduction, that is, by

one be obtained, which may be suffed the "sweeps) efficiency." The max be used to sedente the qualifier of an earlier from

The acrompositing Figs. 1 to 3 show the values of u/2, 6

leter and court covertable America, British, French, Italian and German ripid and nearing durings. The data from which there where have been colorable were consider as-

main groups roughly as follows (for consucred too) :which I have reed mecessfully for several years (name no-

show a to the coefficient of atrestand efficiency. The term

dependent weights (based on arrange figures) The prepared message of "general efficience" I think is too

action with engineering reference to do not before of the I know of. In the first place their sock to emphase theat-

structure. Then performing formula (norm andsity the large, 3 All attradeuts, arresponded on and outra weights day

The farmeds for grants! officiency is wrong in principle

Mr. Jarav's Reply

"If wer were designed to marrow, what would no do for aircraft?"

parason) the values for engage power and speed were reduced water the how of the implant models, the "how exercit"

load and unboaled neight, as heary more accurate and better adapted to their small differences. The total lift was obtained out disappled, the weight non calculated from the known

As noted in Mr. Upom's paper, the value of 6 can be need only under cention conditions depending upon the redworld. whereas a clay or man saudier continuous for or reary, read used, nor 25,000 ratio maters at 330 km, per loss

For example the LESO4, if filled with below, would claw a bits confluent of 415 whereby 0 = 1.56, which is observed.

March 19, 1923 ment by which the various factors can be expressed without

in promptle and appropriate for the capet. But of a se a

Mr. Erosch criterion is therefore fully metided of the

are elements to size, norms, and operating confidence, cannot

Air Board of Chicago

Schooler, but you usendout; Goore B Finter, 2nd vice

Abbreves Frenk & Lank, Chairman of the Avistics Com-

A perpend to tru the healthen of the Shaces Trust and A people to the the founding of the little tree and Scenario, Bank at a memorial to Aventure and he a Cub Harre. rection is a unliable location, was subsected by Mr. McPar-

the Major of Chicago seresquared he correspondence from the National Acceptance Association, U.S.A., requesting ad-

At the named meeting of the Air Bosed of Chicago held in

Schneider Trophy Roce Sent. 28 the Jacques Schneder avision memor topley rare will be held all Cause, life of Wight, England, or Sept. 38. The entered will have a central for assumblifty on Sect 17 The National Assumption Association on behalf of the

president, Charles W. Folds, Incompy, and James S. A dead and both of \$100 configurate will be substated on Agreeded remighters processions Prof. John F. Hayford, a member of The Nellson's Advanced

On nights when the light to us governing broadcasts will E. S. Cont. Spring Chart 909

Sand Point Arreston field

Notices to Aviatory

The field for the persons will exceed of two regroups to the

each side of that. Face bearing are being control analyzed

was he seen easily, as the sinders contrast sharply with the The field will be ready easily in the spring of 1822 Further referention may be obtained from the Boston

OF A 8 1921 F

Send Deat combon field Smith Work has a total own of 200 agree of which 43 agree is decreed and in configure for from: This elected area comprises a strip 500 ft wide and short one-half note long north and math. There are no ob-

Phil H C X Mellimbers, 18, who is no charge of the B O T C Air Berron, Directory of Washington, five se Approx. portion: 47° O' N., 122° 15° W of 1922)

Impactant Notice to Air Pilots

By G. K. Spencer (Law of U. 5 Neval Communications)

As this is written, the hare farry farrier of the Profit-Lt. Comdy. P. N. L. Bellinger, senior side to the Admend. or oles." Actually, this properties as nothing more or loss

Loss Transity on Air Peter

One of the perplexing elements as the Profile is Soviet tablished. Leon Tratific, of his feet neithern server, tened

ce schelates between the unighted, Haven and the Pfelty-Nictor marshard to Howen, with an additional \$5,000 tensors. The Nevy Department segonds the question of Physics or

Tin Desphe-Davis termelo plane have here adveted as

The Air Services of these nations have been given progressis sanglard and use now being flows for squadrons for Natural As a major element they present letter, but as a first residing descent in responsibility with other arms of the series. Her are recorded as talkable. Builder, the terrode sort from

it is not to be denied, Nevel Officers believe, that so long



"If war were deduced to exercise, what would we do for several?!"

The Amport of Son Days.

cases for all production and report, and the Air Squadrons of the Harfly Flori Air conditions at Sea Diego me ideal, and the reclader near, with his squadron supercurron or follows: VF-2: Surpode and Residence Livet Countre B. A. Dorg VF-1: Conduct Seguidons. Livet Conduct P. M. Below VO-1: (Secrection 16): Lieut Conduct R. E. McCamb VO-2: (Secrection 16): Lieut Conduct R. E. Personic VO-2: (Secrection 16): Lieut Conduct R. E. Personic hatferign for maxing of chornation and semial planes

In case of necessity the Atlantae Air Soundreen could fin to San Teips, where sufficient finalities are at hard to lone take pla-then. This is concentrately simply as a nilitary correction knowled-

mortal by the observation with, and much somilier also agents by the contribute signs, and from screening man-agents on. By means of observation and phenographic planes, formation are instructed on their error.

With the Flore the whites the weeker smale except. The

The Divid States passengs one second line simplers across: letters and 420 kilos of newspapers. ship. It to the Langley, depleting 15,700 tame. The Jup. ance the hors are curver slap of \$500 face.
The United States in any hillings not account express at

the piots. Thus they observe under just what conditions arustica accidents occur, and they also countrie the debres

These fight suggests have authority to forbid a flicht per pilot not in the proper physical condition, and first out-

AVIATION

Here on Arrence Order Looks "Torolay, 28 Frienary, 1833

5. After usualize in project neural to samelines.

Aviation in Siam The rapidity with which the get of foring is spending in

became their entered differ from core, in well enemalified by tiffice in the late war, recently copusited on air force which offere and three con-communicated offers of the Sauces gracy flow from Bunebolt, the capptal of Room, to Harroy, the regard of Percet Indo-China, in report the shall Percet away anisten had post from the previous year. This top reppreference of the Summe air form A two-weakly six suid service is also in operation in files, operating remissiv between Khonel and Unco. During the

Six-Mile Gliding Record

A new distance record for elifter was established Pub. 20 bourg a distance of 25 kilometers (43 miles). The per-ferences was made in a ward of 17 miles per sound. The Managed took off from a kill 150 maters high and he rese to a blinks of only 65 meters above the Mill read before starting on his long girls. He med, an on he previous starting on his long gate. He took, at on he pervoon giving fights, a Frynt tenden menuplane of the Langley true. This betest performance gives endonce to Manaroul's

A Radio Address by Admiral Moffett

Navel Air Chief Tells on Air Power

Boar Adminal William A. Modiet. Charl of the Burson of would undoubtedly have control of the no. with the present come common William A. Houset, Unite or the Bussen of Assumation, Navy Department, in an address brandont on March 6, 1925, from WJE under statum, dealt in an interesting States was within your sorted hundrer many of the favorer

Seconds and Melapolanic Admiral Modict told of the progress that had been made in

"Aviation has reducily elegand the relation of ferrorowned possessing in the West Indio, and us the continued; manifest to the Paried States," he said. "Bermode poursies would be accounty to have no energoes reasher of fightest

Sen Brinis Field Sale Sen would emble if to bond our Alberto Coast. In my so ration

Aeronsuzical Patents

LAULETS Hoftwo, Thomass, W., Palers, St., Lewis, No. LIGISM Appends Compare and Method of Making Same. Oose J. Lang, Chrystad, Olso Lobbid Amazond For Americ, Orlead Dwo, The U.S. 1 440 702 Bridging Steph Stelle, Marrie M. Tilbergetten, LASSING Configuration Applies and Applies. Welliam

taken as no ensurate, but would resultance spely to the other and Tutch. January, for inchase, in within your booking adventages are in no wise experies to Bernaude. In fast the

tuese, on 6 is within your strikers distance for acrist attach.

to forming master by again saving, the ESC Then too distance, restamed Sinter, in exercising large leads, the night sankip is in a class by shelf. Its expectly to bover over a bombs and in directory you fire, establish it as an effective

residable bases
"Filled with below, a consistentiable our found sale in

Fine Altitude Eliebt

plane fixed such a 400 by Benich "Japater" roded accessed at moran, routed a height of 7500 cuters with a meled load of 550 km. The climb to 7500 cu took 50 curs and the de-This performance has not yet been homoloosted on a world's

"If we were deduced to-sorrow, what would no do for excent?"

Bristol "Cherub" Engine for Small Aircraft

2 Col. Harizontal Occased Type Develops 18 bn. for 85 lb. Weight

tire could excue takink for the purpose. The expensive the firm record with its recommend 100 to "Jamier" and 100 powered organe thes in our Engine of converted motor entire tree- as sont of their con-they were couldn't carte



on the Fronds sest beach under conditions counts a miles to

here remains at considerall users, to be used to concerning

Farty IV mm Finder, Ni min Sport Provincerum, 18 at \$100 mars.

From the accompanying illustration of the engine its class exposed mercog parts to inferents, west, or require of

The valve mechanism in all special interest. A single carsheft with fact internal same, and driven by very robest rent energie facers, which in term mercie meliter shafts springs, and the mechanism is such that when the splenders shafts and value. Twin escentize springs are used for the Tuanden value. The whole mechanism in emissed and The eracleshoft in very staff and rebest, and is supported as The connecting role on threshold on in the municipality, and mn or murbardood creatpass with 7/16 in rollers. The has so can-encouse cranapies with 1/10 in rance. Its

Labrication of the sustee throughout to exposure. Oil on working delivered to the finance owns, complete modern

Ignifican a by B.T.H. two-spinder regrets, drawn by securing from the curricularity. Minters is provided by a Kenith carbanetor, drawing let A read population brink of these segmen in pay being ought should need further empiries in the British Arraylane Coursey, Ltd., Piller, British Revised

Flying Tournament for Philadelphia

Round the World by Air Another round the moral field to encounced. Crac Pales

wheneve he rateraly to start on the ented the world tree. His Capture Zenes indeeds to use a First AEF hiplane fitted with the USS has Post exprise

Recent Activities of the AFS MIT Institute of Technology has hold mount mackings during the pattern of lot samee's gibber competition in Prace and

A meeting open to all MIT students and the public was half for 25. The first speaker was President 8 W Studies

The next speaker was Prof. E. P. Warner who spoke on services reasonary of his operations when the elling brough Europe less someour and making a study of European ar-nors, or which he flow more 2000 miles. Het light was the Record reds of making nictars of the girler contents on concentrat with the manufacturers and make valuable.

which were built by the Accountries! Engineering Sorsety, in first. Some of the Dar had not arrived from Engree and The AES in conducting a plader desire governtition open to all students at M.I.T. This competition to confer to the waxing design will arisely be bulk, although it has not been determined whether or not the Society Half will wisher hr him at but regarded with at pacceptages which were taken by him at but regarded withher meets to Posses and Gov fight. The set of photos farms a very complete pusternal

French Aircraft Win Spanish Competition An interestical connection for sulfitary similares of the

first alon are power, which even though it he conversely with an once of war. British account rudening our representation The conditions of the competition have not as yet been finished first in all three entraperes. The compellion for ob-servation correlators was wan by a Remont 20AZ LUTS by

In the bonkerdnest estorory a Parson Grinth thre-In the bondercount enterpris 2 Firmen owners are: 175 by Lorriso-Petrick engines) piloted by Coget was declared wanter, while the pagent timbing competition was Several contentum way eliminated by antidents, some of which were of a serious nature. The Domest purpose these had one vine said up in the six, while the Annable emaked on hadden. Effor its old. The Politic regrets draw also

Aircraft Supply Firm Changes Name

The Power-lance European & Part Co. of Nor York, the only firm to earny in stock hope quantities of meteral Special appliftery is new bear added to the community Wright Corp. to Build Aircraft

Marsk 29, 1823

Phones Make Contact in Elisabet

E. S. Army, "Erroscipts" and Laut Chile V. Finter A.L., possibility of delevery me-may and periods of referring from one requires to another while in their

New Attempt at Duration Record

The surpleme has might backing recopened and facilities for

British Air Estimates

for the 5-rd year PRI 24 measured March 8, door a greated of 178,005,000





Making contact between corplemes on Highs. On the left, Learness Sprony on Januar of the U. S. "Messenger" filled until

ARMY AND NAVY AIR NEWS

Air Service

General Markett Each 1980-Nile Air Trip-Daily Con Welten Mitchell, Assistant Chief of Air Fernice, basical at Bolling Facil into on March 2 alter completing a \$300-mile County Witchell left Washington on Aus II by strplaus Adverse weather conditions provided the first day and the for a new tone of training washing curling the wilst and Syring spanners, melading landings and signaling lights the list Percett Group, what has proutly developed a new and there as for an a marker marker without the despestreet of directly across Lake Wichston to Barrier Island. Grand Wirled the seconded to the Relian School of

of the Army ambigo and vested Lambert Field, in the solt

period worth and within these days were firme stone the Coan the invitation of the Campline Government, Green, Hardrad planes, reptypes was water man one or From Toronto, Georgi Matchell precorded to Ottown, the Addrised Convery and Southing Facilities in Kelly Field-

Progress of the Primary Physing School... Statutus a compiled by



Members of the Art Service Physics Expolition in Posts Rice: Epper sea, L. to R-Livate Red. N. Nobers, Réque T.

March 23, 2025

Army Golers-May George W. De Armand, & S., Fort Preparations for New Speed Trade-Instructions have been Bergergy Macrosco, Ind., transferred to Field Artiflery Stoff Scott Ravel C Problem, A.S., 19th Che Sed Ford, Hambords, W. V.

from detell to A.S., Brooks Field, arogned to 10th Aut. Bett [Anti-Amyrafi], Fact Crackets, Vec. Order to Lieut Manmood S Jets, A.S., from Keth. Publ So. Livel Army H. Rich, A.S., from Kelly Field to Post North Sergs, Adolph Gerber, A.S., 20th Attack Stat, placed. or rained hat Kirlb Field.

From Lores Thad Y. Frater, A.S., San Francisco, from

Nay Herver B S Ferredt, AS, trees offer, CAS to

Book of Lietz Study Smits-Love, Study Smits, A.S., was billed and Mrs. Federit Bradley, A.S., was surmanly at Wise at a height of 5000 ft over Fort Hemitee, the connumber was another to senters the heresty leaded styp in Early, looking the stee deleted at high tooks and recease beings. In

A bord of separaty and appainted by May W. S. Wester, responsibility of the latest production of the country of the States Warrer total a statement recovering Lieutenest Built who was kided "as a gallest and successful effect to tary the lates of others," and blowns pressure No. Kolovia

fromt to minblah mry mont mounts over a special-mater The two serplemes are the Certain parent medican in one The two arranges are the current parallel immeans as one of which Berg Gen. Welkins Matchell on Det. 18, 1822, on takinded the one Silveneous and Fe record at a meed of 222-87 mph, receiv bokes in Penne by Sah Leolate at the speed of 27100 mph. The other Dorins replies in the random pileted by Levet R L. Merghes of the Argy when he set up the weed mark for 180 biforeters (02.13 miles) at It is re-oried that in the source of record took during

Moor Hickhon's New Assignment-Day Horses St. Hickory Chart of the intermedian Devices, Office, Chief of Av Say M is doubtful if the transfer of an efficer from one can

Peter Room Phete Break Erross... The Ports Disco Physics On Harry 11 the formation for from Murai to Harries

Mer - National Ballery Earn. the 32 - National Arphane Roses, Sr. Louis, Mo.

Newk 21 - Keitner elest for Gorden Draws Sullivan Wer 13 Greed Prox (Bullivara), Paris, France

Stor 526 - Stepline Vest, Franch, seer Chertogra. Dec 1 - Entry: clear for French Excuse remembers.

Sept. 21 - Schweder Markins: Acution Dople Box,

"It's not were deduced to survey, what would not do for aircraft?"

Kifed in circular section, Lando, Tec, Fab 9, 1022.
Bases in Medigen, New 16, 2564. Appointed from New York: Phr. M.ER.C. June 22, 1047, Nov. Limit As Sec-Septial Corps, Apr. 22, 1045, June June As Sec-Septial Corps, Apr. 22, 1045, June 3, 1040, 888, CE, Olso Section Taxonous, 1057. Services Library, Mail.
He was on date of Posts Fueld, Tours, from Apr. 22 to
May 6, 2005, at Comp Dock, Dallas, Ten, to Mr., 23, 1000,
at Langley Fueld, Ve., to Oct. 2, 1938, at School at Mil. Arra-

Jane 27, 1922) at Kelly Polit, Try , is daily of druth

Killed in symbols storbed, Kidb, Field, Fee, 16, 1920. He was on daily at Bouthyr Publ, Go., Frant Sept. 20, 1814, to Ont. 1838, at Gorden City, L. I., X. Y., to Out. 26, 1818, exerved: to and an dair in Europe, returning to the U. S., Dec. 4, 1816; at Art Service Depar, Gamber City, S. I., N. Y., to daily of dishistor from returning recommend. As deciat Pt. Outano, N. Y., from Sept. 10 to Oct. 10, 1939, a student officer, March 26 to June 6, 1921; to June 29, 1822; at Relly Pets. Tex. to date of death

Aircraft Covins Longley Joint Flort. The experimental surdone carrier, USS Langley, now operating of Pennanda,

Considers—Lanz R M Farrer, U.S.N., and Aventury Me-chanet's Natur Stephen F. Stallaron, U.S.N., were helded on a maphase much pour Philodophia on March U. the Norty De-Londres of Ferry was picture on experimental franc-Perfore at Philippina, to Autrosia, D. C., when the next

herefrenet Perror was attached to the Naval Burrer of Studiositic Mate Sulbace was substed in Chicago on 1921. Need Order-Louis, Juliu N. Marriman, det Nav. Aur Str.

AEROMARINE AIRWAYS IN MINEST ARREATS CORP.

Munt. 23, 1921

One of the free had body or Age ATE NO FOR STUBBLE AVE. PARTRIDGE, Inc

G0 1. Mickeyo Ave. Wells for Backle As. Our of the lawrer and had emissed three didte. KOKOMO AVIATION CORP ALL TIPES OF CURTES PLANS

Layer Field, 5 miles S. E. of Ballimore. All branches of Commune of Assisting.

AMERICAN AMERICAN IN States & Res 100, Editors, Ed

WHITE REAR LAKE, MINN Hareld G. Frieren Aircraft Company

NAMED IN ADDRESS TOTAL WAY Leave on shape they come to the Pinner people \$20 hr. CHAMBERLIN AIRCRAFT Sphrod Feyns, N. J.

CENTRE HELD CARRIES CITY, LOSG HAND-SCHAFFORD HELD MERKALD, N. Y., FATHER TYATION ADJAMIC CITY, N. J. CURTISS ASSOPLANE & MOTOR CORPORATION APROMARINE AIRWAYS, INC. The State of the Year of the Part of the State of the Sta

DAYTON OHIO PERSON ASPLANT & SEPTET CO.

WINDSHIP WINDSHIP APPORTMENT OF FLYING SCHOOL CELLS I MENDONNA

dan further he persons maying pilet being an 26 Consecutive Invertions \$20.00

Can You Give Service Like This?

When the "St. Louisan" left Mr. Haskell in Dayton the Telegram shows We Caught His Train.

Albanto 6 200 de Todos lamos del Albanto 6 200 de Todos lamos del Sedios infectos se belancorre, leitife tropo Tarbon to 100 200 600 lamos del

UND INTERMENT ON ANY THEIR PERCE

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Shalle for above \$2" long for front codes Various tackersons, \$ it doubt

EQUIP YOUR PLANE WITH NEW MATERIAL AND BE PREPARED-IT RADIATORS REME TURNEY BORN COM-

or Harmon cartidgs type, will not over loss Sadates Stone Toway for ISS Stepans and Walter such & colding Incides to capturer

"The Association Smooth House" WRITE FOR CATALOG NO. 5 JOHNSON AIRPLANE & SUPPLY CO., Dayton, O.



Half Daland Acre Corporation annonces the cloung of its Kansas City office. es sales and fiving force to the gamp office Improvements developed in caetaleur-

Navy davige the past year are been incomposited in the new Petrol fee 1923. 1922 model Potroli are new available at

Onderslane, N. Y.

HUFF DALAND AERO CORPORATION



U. S. Army and Name

CHANCE VOUGHT CORPORATION

LONG ISLAND CITY

NEW YORK

Efficient Airplane Equipment

741 10

March 19, 1923

INDEX TO ADVERTISERS

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